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Leu Va	Asp	Gly 20	His	His	Leu	Ala	Tyr 25	Arg	Thr	Phe	His	Ala 30	Leu	Lys
Gly Le	Thr 35	Thr	Ser	Arg	Gly	Glu 40	Pro	Val	Gln	Ala	Val 45	Tyr	Gly	Phe
Ala Ly: 50	Ser	Leu	Leu	Ьуs	Ala 55	Leu	ГАз	Glu	Asp	Gly 60	Asp	Ala	Val	Ile
Val Val 65	l Phe	Asp	Ala	Lув 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly Ty	. Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu Ala	a Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu Va	Pro	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys Ala		Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp Let 145	ı Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly Ty	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	ГАв	Tyr	Gly	Leu 175	Arg
Pro As	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn Le	1 Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu Gl		Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu Ly: 225	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys Le	ı Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu

			260	272	*** 5		014	265	11010	**** 5	0		270	3	
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Trp	ГÀв	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Gln	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	qaA	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560

Leu His Thr	Arg Phe 565	Asn Gln	Thr Ala	Thr A 570	la Thr	Gly Arg	Leu 575	Ser
Ser Ser Asp	Pro Asn 580	Leu Gln	Asn Ile 585		al Arg	Thr Pro		Gly
Gln Arg Ile A	Arg Arg	Ala Phe	Ile Ala 600	Glu G	lu Gly	Trp Leu 605	Leu	Val
Ala Leu Asp 9	Tyr Ser	Gln Ile 615	Glu Leu	Arg V	7al Leu 620	Ala His	Leu	Ser
Gly Asp Glu A		Ile Arg 630	Val Phe		lu Gly 35	Arg Asp	Ile	His 640
Thr Glu Thr	Ala Ser 645	Trp Met	Phe Gly	Val P 650	ro Arg	Glu Ala	Val 655	Asp
Pro Leu Met A	Arg Arg	Ala Ala	Lys Thr 665		sn Phe	Gly Val 670		Tyr
Gly Met Ser A	Ala His	Arg Leu	Ser Gln 680	Glu L	eu Ala	Ile Pro 685	Tyr	Glu
Glu Ala Gln A 690	Ala Phe	Ile Glu 695	Arg Tyr	Phe G	ln Ser 700	Phe Pro	Lys	Val
Arg Ala Trp 1 705		Lys Thr 710	Leu Glu		ly Arg	Arg Arg	Gly	Tyr 720
Val Glu Thr 1	Leu Phe 725	Gly Arg	Arg Arg	Tyr V	al Pro	Asp Leu	Glu 735	Ala
Arg Val Lys S	Ser Val	Arg Glu	Ala Ala 745		rg Met	Ala Phe 750		Met
Pro Val Gln 0 755	Gly Thr	Ala Ala	Asp Leu 760	Met L	ys Leu	Ala Met 765	Val	Lys
Leu Phe Pro P	Arg Leu	Glu Glu 775	Met Gly	Ala A	rg Met 780	Leu Leu	Gln	Val
His Asn Glu I 785		Leu Glu 790	Ala Pro		lu Arg	Ala Glu	Ala	Val 800
Ala Arg Leu A	Ala Lys 805	Glu Val	Met Glu	Gly V 810	al Tyr	Pro Leu	Ala 815	Val
Pro Leu Glu V	Val Glu 820	Val Gly	Ile Gly 825		ap Trp	Leu Ser 830	Ala	Lys
Glu His His H 835	His His	His His						
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PCT/US01/17086

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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly

			260					265					270		
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Сув	Arg	Asp	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	ьуs	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val.	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	ьув	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	ьуз	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lуs 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly

565 570 575 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 580 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arq Val Leu Ala 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 Asp Ile Ala Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His 840 <210> 35 <211> 842 <212> PRT <213> Artificial

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Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Сув	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 695 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 730 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Ala Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His 840 <210> 36 <211> 842

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Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu

280

Phe	Gly 290	Leu	Leu	G1u	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	ГÀг	Thr 510	Gln	Lys
Thr	Gly	Ьув 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 810 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 Ser Ala Lys Gly His His His His His His 835 840 <210> 37 <211> 842 <212> PRT <213> Artificial <220> <223> Synthetic

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Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 \$105\$

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 \$150\$

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 \$170\$

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 \$200\$

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 \$230\$

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro

	290					295					300				
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Va1	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	гуз	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	qaA	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Ьеи 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp

595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 $$ 630 $$ 635 $$ 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710715715

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

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Pro	Glu	Pro	Tyr 340	Ьys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lуs 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
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Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
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Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
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Gln	Arg	11e 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val

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Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr	
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Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
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Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala 305 310 315 320

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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

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Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Ala Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195  $\phantom{\bigg|}200\phantom{\bigg|}$  205

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Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu 245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro 290 295 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 315 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val 325 330 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu 520 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arq Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 585

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 595 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala 615 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 700 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His 835 840 <210> 375 <211> 2526 <212> DNA <213> Artificial

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Asn Leu Leu	Lys Arg 420	Leu Glu	Gly	Glu 425	Glu	Lys	Leu	Leu	Trp 430	Leu	Tyr
His Glu Val 435	Glu Lys	Pro Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
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<223> The residue at tH position is a cy3 abasic linker group.
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168

16

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WO 01/90337 PCT/US01/17086 <210> 224 <211> 18 <212> DNA <213> Artificial <220> <223> Synthetic <400> 224 18 acggaacgag cgtctttg <210> 225 <210> 225 <211> 32 <212> RNA <213> Artificial <220> <223> Synthetic <400> 225 32 gegagegaga cagegaaaga egeueguuce gu <210> 226 <211> 32 <212> DNA <213> Artificial <220> <223> Synthetic <400> 226 32 gcgagcgaga cagcgaaaga cgctcgttcc gt <210> 227 <211> 29 <212> DNA <213> Artificial <220> <223> Synthetic <400> 227 29 acggaacgag cgtctttcat ctgtcaatc <210> 228 <211> 26 <212> RNA <213> Artificial <220> <223> Synthetic <400> 228

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<220> <223>	Synthetic	
	n (1)(1) TH 5' end is labeled with fluorescein.	
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<210> <211> <212> <213> <223>	28	

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Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 $$
Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly $_{65}$ $$ 70 $$ 75 $$ 80
Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln $$90$$
Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110 \hspace{1.5cm}$
Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125
Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 $$135$$
Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 $$150$$
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Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190
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Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg

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Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
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Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
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Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Gly	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
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Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro

515 520 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 535 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly 585 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 600 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Arg Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asp Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val

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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala

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Arg	Leu	Glu 115	Val	Pro	Gly	Tyr	Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
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Met	Trp	Ala	Glu	Leu 325	ГÀв	Ala	Leu	Ala	Ala 330	Cys	Arg	Asp	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Ъуя 350	Glu	Val

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Asp	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu

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Pro '	Tyr 690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe	
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Phe i	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala	
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Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 

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Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 60														
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Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 135														
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Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 175														
Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp 180 185 190														
Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu 195 200														

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Val 225	Lys	Pro	Asp	Ser	Leu 230	Arg	Arg	Lys	Ile	Glu 235	Ala	His	Leu	Glu	Asp 240
Leu	His	Leu	Ser	Leu 245	Asp	Leu	Ala	Arg	Ile 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Lys	Ala	Leu	Arg	Arg 265	Arg	Thr	Pro	Asp	Leu 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Glu	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	ГАЗ	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Gly	Gly	Arg 335	Val
His	Arg	Ala	Thr 340	Ser	Pro	Val	Glu	Ala 345	Leu	Ala	Asp	Leu	Lys 350	Glu	Ala
Arg	Gly	Phe 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Leu 365		Glu	Gly
Val	Ala 370	Leu	Asp	Pro	Thr	Asp 375	Asp	Pro	Leu	Leu	Val 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ala	Asn	Thr	His 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Phe	Thr	Glu	Asp 405	Ala	Ala	Glu	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
Phe	Gln	Asn	Leu 420	Phe	Lys	Arg	Leu	Ser 425	Glu	Lys	Leu	Leu	Trp 430	Leu	Tyr
Gln	Glu	Val 435	Glu	Arg	Pro	Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
Arg	Gly 450	Val	Arg	Leu	Asp	Val 455	Pro	Leu	Leu	Glu	Ala 460	Leu	Ser	Phe	Glu
Leu 465	Glu	Lys	Glu	Met	Glu 470	Arg	Leu	Glu	Gly	Glu 475	Val	Phe	Arg	Leu	Ala 480
Gly	His	Pro	Phe	Asn 485	Leu	Asn	Ser	Arg	Asp 490	Gln	Leu	Glu	Arg	Val 495	Leu
Phe	Asp	Glu	Leu 500	Gly	Leu	Thr	Pro	Val 505	Gly	Arg	Thr	Gln	Ьуs 510	Thr	Gly

Lys		Ser 515	Thr	Ala	Gln	Gly	Ala 520	Leu	Glu	Ala	Leu	Arg 525	Gly	Ala	His
Pro	Ile 530	Val	Glu	Leu	Ile	Leu 535	Gln	Tyr	Arg	Glu	Leu 540	Ser	Lys	Leu	Lys
Ser 545	Thr	Tyr	Leu	Asp	Pro 550	Leu	Pro	Arg	Leu	Val 555	His	Pro	Arg	Thr	Gly 560
Arg	Leu	His	Thr	Arg 565	Phe	Asn	Gln	Thr	Ala 570	Thr	Ala	Thr	Gly	Arg 575	Leu
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Leu	Ala 610	Ala	Asp	Tyr	Ser	Gln 615	Ile	Glu	Leu	Arg	Val 620	Leu	Ala	His	Leu
Ser 625	Gly	Asp	Glu	Asn	Leu 630	Lys	Arg	Val	Phe	Arg 635	Glu	Gly	Lys	Asp	Ile 640
His	Thr	Glu	Thr	Ala 645	Ala	Trp	Met	Phe	Gly 650	Leu	Asp	Pro	Ala	Leu 655	Val
Asp	Pro	Lys	Met 660	Arg	Arg	Ala	Ala	Lys 665	Thr	Val	Asn	Phe	Gly 670	Val	Leu
Tyr	Gly	Met 675	Ser	Ala	His	Arg	Leu 680	ser	Gln	Glu	Leu	Gly 685	Ile	Asp	Tyr
Lys	Glu 690	Ala	Glu	Ala	Phe	Ile 695	Glu	Arg	Tyr	Phe	Gln 700	Ser	Phe	Pro	Lys
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Tyr	Val	Glu	Thr	Leu 725	Phe	Gly	Arg	Arg	Arg 730	Tyr	Val	Pro	Asp	Leu 735	Ala
Ser	Arg	Val	Arg 740	Ser	Val	Arg	Glu	Ala 745	Ala	Glu	Arg	Met	Ala 750	Phe	Asn
Met	Pro	Val 755	Gln	Gly	Thr	Ala	Ala 760	Asp	Leu	Met	Lys	11e 765	Ala	Met	Val
Lys	Leu 770	Phe	Pro	Arg	Leu	Lys 775	Pro	Leu	Gly	Ala	His 780	Leu	Leu	Leu	Gln
Val 785	His	Asn	Glu	Leu	Val 790	Leu	Glu	Val	Pro	Glu 795	Asp	Arg	Ala	Glu	Glu 800
Ala	Lys	Ala	Leu	Val 805	Lys	Glu	Val	Met	Glu 810	Asn	Ala	Tyr	Pro	Leu 815	Asp

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gaggegggg aaagggggt gctttccgaa aggctttacg ccgcctcct gaaggggctt

246

1200

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Pro Pro Gly Asp 370	Asp Pro Met 375	Leu Leu A	ala Tyr Leu Leu 380	Asp Pro Ser
Asn Thr Thr Pro	Glu Gly Val 390	Ala Arg A	arg Tyr Gly Gly 395	Glu Trp Thr 400
Glu Glu Ala Gly	Glu Arg Ala 405		Ser Glu Arg Leu 110	Phe Ala Asn 415
Leu Leu Lys Arg		Glu Glu A 425	arg Leu Leu Trp	Leu Tyr Arg 430
Glu Val Glu Arg	g Pro Leu Ser	Ala Val I 440	Leu Ala His Met 445	Glu Ala Thr
Gly Val Arg Let 450	Asp Val Ala 455		Arg Ala Leu Ser 460	Leu Glu Val
Ala Glu Glu Ile 465	e Ala Arg Leu 470	Glu Ala G	Glu Val Phe Arg 475	Leu Ala Gly 480
His Pro Phe Ası	1 Leu Asn Ser 485		31n Leu Glu Arg 190	Val Leu Phe 495
Asp Glu Leu Gly 500		Ile Gly I 505	Lys Thr Gln Lys	Thr Gly Lys 510
Arg Ser Thr Ser 515	r Ala Ala Val	Leu Glu A 520	Ala Leu Arg Glu 525	Ala His Pro
Ile Val Glu Ly: 530	s Ile Leu Gln 535		Hu Leu Thr Lys 540	Leu Lys Ser
Thr Tyr Ile As	Pro Leu Pro 550	Asp Leu l	Ile His Pro Arg 555	Thr Gly Arg 560
Leu His Thr Arg	g Phe Asn Gln 565		Thr Ala Thr Gly 570	Arg Leu Ser 575
Ser Ser Asp Pro		Asn Ile I 585	Pro Val Ala Thr	Pro Leu Gly 590
Gln Arg Ile Ar	g Arg Ala Phe	Ile Ala (Glu Glu Gly Trp 605	Leu Leu Val
Ala Leu Asp Ty 610	r Ser Gln Ile 615		Arg Val Leu Ala 620	His Leu Ser
Gly Asp Glu As	n Leu Ile Arg	Val Phe	Gln Glu Gly Arg	Asp Ile His

625 630 635 640 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 650 Pro Leu Mct Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 41 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 41 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 25

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Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Ьeu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 2 7 5	Arg	Leu	Glu	Phe	Gly 280	ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu 345 340 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 395 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly 475 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val 600 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 630 635 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arq Glu Ala Val Asp

645 650 655 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 665 660 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 680 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 695 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 42 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 42 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

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Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Glu 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Ьуs	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
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Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
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Leu	Glu 210	Glu	Trp	Gly	Ser	Ьеи 215	Glu	Ala	Leu	Leu	Lуs 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
•			-	245			•		250		Ī		Pro	255	
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
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Leu	Glu 290	Ser	Pro	ьуs	Ala	Ьеи 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lуs 315	Glu	Pro	Met	Trp	Ala 320
				325				_	330		_		His	335	
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu

100		355	, not	, nec	361	vas	360		. nec	ı MZÇ	GIL	365		1 GT	, тег
Pro	370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Туз	280		ı Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395		Gl3	/ Glu	Trp	Th:
Glu	Glu	Ala	Gly	Glu 405		Ala	Ala	Leu	Ser 410		Arg	Let	Phe	Ala 415	
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Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440		Leu	Ala	His	Met 445		Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460		Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475		Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
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Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
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Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	нів	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr 660 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 825 Glu His His His His His His 835 <210> 43 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 43 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe

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Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile

Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	G1u	Thr	Glu 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	G1u	Lys	Glu	Gly	Tyr 135	Glu	۷al	Arg	Ile	Leu 140	Thr	Ala	Asp	ГЛа
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	qaA	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	ьув	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lув 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu

Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Gly 500	Leu	Pro	Ala	Ile	Gly 505	Lys	Thr	Gln	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	11e 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	11e 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	H1s 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 680 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 695 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 44 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 44 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 4.0

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly

65	70		75		80
Gly Tyr Lys 1	Ala Gly Arg 85	Ala Pro Thi	Pro Glu Asp 90	Phe Pro Arg 95	Gln
	Ile Lys Glu 100	Leu Val Ası 10	Leu Leu Gly	Phe Thr Arg	Leu
Glu Val Pro 0 115	Gly Tyr Glu	Ala Asp Asp 120	Val Leu Ala	Ser Leu Ala 125	Lys
Lys Ala Glu I 130	Lys Glu Gly	Tyr Glu Va 135	l Arg Ile Leu 140	Thr Ala Asp	Lys
Asp Leu Tyr (3ln Leu Leu 150	Ser Asp Arg	Ile His Val 155	Leu His Pro	Glu 160
Gly Tyr Leu 1	Ile Thr Pro 165	Ala Trp Le	1 Trp Glu Lys 170	Tyr Gly Leu 175	Arg
	Trp Ala Asp 180	Tyr Arg Ala	a Leu Thr Gly	Asp Glu Ser 190	Asp
Asn Leu Pro (Gly Val Lys	Gly Ile Gly 200	Glu Lys Thr	Ala Arg Lys 205	Leu
Leu Glu Glu 7 210	Trp Gly Ser	Leu Glu Ala 215	a Leu Leu Lys 220	Asn Leu Asp	Arg
Leu Lys Pro 2 225	Ala Ile Arg 230	Glu Lys Ile	e Leu Ala His 235	Met Asp Asp	Leu 240
Lys Leu Ser	Trp Asp Leu 245	Ala Lys Va	l Arg Thr Asp 250	Leu Pro Leu 255	Glu
	Ala Lys Arg 260	Arg Glu Pro	Asp Arg Glu	Arg Leu Arg 270	Ala
Phe Leu Glu / 275	Arg Leu Glu	Phe Gly Se	r Leu Leu His	Glu Phe Gly 285	Leu
Leu Glu Ser 1 290	Pro Lys Ala	Leu Glu Glu 295	ı Ala Pro Trp 300	Pro Pro Pro	Glu
Gly Ala Phe V	Val Gly Phe 310	Val Leu Se	r Arg Lys Glu 315	Pro Met Trp	Ala 320
Asp Leu Leu I	Ala Leu Ala 325	Ala Ala Ar	Gly Gly Arg 330	Val His Arg 335	Ala
	Tyr Lys Ala 340	Leu Arg As	p Leu Lys Glu	Ala Arg Gly 350	Leu
Leu Ala Lys i 355	Asp Leu Ser	Val Leu Al. 360	a Leu Arg Glu	Gly Leu Gly 365	Leu
Pro Pro Gly	Asp Asp Pro	Met Leu Le	ı Ala Tyr Leu	Leu Asp Pro	Ser

370 375 380 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 390 395 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn 405 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arq Leu Glu Ala Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Gln Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 625 630 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 650 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr

665 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu

259

675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val 770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His 835

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<211> 839

<212> PRT <213> Artificial

<220>

<223> Synthetic

<400> 45

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	ьуs	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly 165	Tyr	Leu	Ile	Thr	Pro 170	Ala	Trp	Leu	Trp	Glu 175	Lys	Tyr	Gly	Leu	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	qaA	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser

Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lув 505	ГÀв	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln €:	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His His 835 <210> 46 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 46 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly

Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Ala 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lуs
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	ГÀЗ	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	qaA	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Ъуs 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400

Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Ile	Asn 505	Lys	Thr	Lys	Lys	Thr 510	Gly	ГЛя
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Gl u	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Gl u	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	G1u 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 825 Glu His His His His His 835 <210> 47 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 47 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu

	100		105	110	
Glu Val Pro 115	Gly Tyr G	u Ala Asp 120	Asp Val Leu	Ala Ser Leu 125	Ala Lys
Lys Ala Glu 130	Lys Glu G	y Tyr Glu 135	Val Arg Ile	Leu Thr Ala 140	Asp Lys
Asp Leu Tyr 145	Gln Leu Le 1		Arg Ile His 155	Val Leu His	Pro Glu 160
Gly Tyr Leu	Ile Thr P: 165	o Ala Trp	Leu Trp Glu 170	Lys Tyr Gly	Leu Arg 175
Pro Asp Gln	Trp Ala A: 180	p Tyr Arg	Ala Leu Thr 185	Gly Asp Glu 190	
Asn Leu Pro 195	Gly Val L	rs Gly Ile 200	Gly Glu Lys	Thr Ala Arg 205	Lys Leu
Leu Glu Glu 210	Trp Gly S	er Leu Glu 215	Ala Leu Leu	Lys Asn Leu 220	Asp Arg
Leu Lys Pro 225	Ala Ile A		Ile Leu Ala 235	His Met Asp	Asp Leu 240
Lys Leu Ser	Trp Asp Le 245	eu Ala Lys	Val Arg Thr 250	Asp Leu Pro	Leu Glu 255
Val Asp Phe	Ala Lys A 260	g Arg Glu	Pro Asp Arg 265	Glu Arg Leu 270	
Phe Leu Glu 275	Arg Leu G	u Phe Gly 280	Ser Leu Leu	His Glu Phe 285	Gly Leu
Leu Glu Ser 290	Pro Lys A	a Leu Glu 295	Glu Ala Pro	Trp Pro Pro 300	Pro Glu
Gly Ala Phe 305		ne Val Leu .0	Ser Arg Lys 315	Glu Pro Met	Trp Ala 320
Asp Leu Leu	Ala Leu A 325	la Ala Ala	Arg Gly Gly 330	Arg Val His	Arg Ala 335
Pro Glu Pro	Tyr Lys A 340	la Leu Arg	Asp Leu Lys 345	Glu Ala Arg 350	
Leu Ala Lys 355	Asp Leu S	er Val Leu 360	Ala Leu Arg	Glu Gly Leu 365	Gly Leu
Pro Pro Gly 370	Asp Asp P	o Met Leu 375	Leu Ala Tyr	Leu Leu Asp 380	Pro Ser
Asn Thr Thr 385		ly Val Ala 90	Arg Arg Tyr 395	Gly Gly Glu	Trp Thr 400
Glu Glu Ala	Gly Glu A	g Ala Ala	Leu Ser Glu	Arg Leu Phe	Ala Asn

405 410 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly 470 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 Asp Glu Leu Arg Ile Pro Lys Ile Lys Lys Thr His Lys Thr Gly Lys 505 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 520 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tvr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arq Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu

675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr

705 710 715 720 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala 730 725 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys 760 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 48 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 48 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu 1.00 105

Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	ГÀЗ
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	GŢĀ	11e 200	Gly	Glu	Lys	Thr	Ala 205	Arg	ГÀа	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn

Leu	Leu	Lys	Arg 420	Leu	G1u	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	ГАВ
Arg	Ser	Ser 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	ГÀв	Leu	ГÀв	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	qaA	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp.	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 810 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 825 Glu His His His His His 835 <210> 49 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lуs	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Авр	Lys
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
		195					200					205	Arg		
	210			,		215					220		Leu		
225	-				230					235			Asp		240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
			260					265					Leu 270		
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
305				•	310				_	315			Met		320
				325					330				His	335	
			340					345					Arg 350		
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
385					390			_	_	395	-	_	Glu	-	400
			_	405					410				Phe	415	
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg

Glu	Val	Glu 435	Arg	Pro	Leu	ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Ьeu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Va1	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Leu	Leu 520	Glu	Ala	Leu	Arg	G1u 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Sex
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
			Arg 660	-				665				·	670		-
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
	690		Ala			695	_				700			-	
705		-	Ile		710					715	_	-	_	_	720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gl
n Val770 780 Leu Fro Arg Leu Glu Fro 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 805 810 815

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Glu His His His His His His 835

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<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 50

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly \$35\$

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala

130 135 140 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 155 150 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 170 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp Asn Leu Arg Gly Val Arg Gly Ile Gly Glu Lys Thr Ala Leu 200 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 410

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tvr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met

435 440 445 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser 455 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg 490 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys 505 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 650 645 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 710 715

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala

740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835 840

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<220>

<223> Synthetic

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Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly \$35\$ \$40\$ \$45\$

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr \$100\$

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Tyr 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	G1u	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Ьеи 420	Leu	Lys	Arg	Ъeu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met

Gl	u Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Le 46	ı Glu 5	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Le	ı Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
۷a	l Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	Lys	Thr 510	Gln	Lys
Th	r Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Al	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Le 54	Lys 5	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Th	r Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Ar	g Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pr	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Al	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
Hi:	Leu 5	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
As	Ile	His	Thr	Gln 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Pro 655	Glu
Al	a Val	Asp	Pro 660	Leu	Met	Arg	Arg	Ala 665	Ala	Lys	Thr	Val	Asn 670	Phe	Gly
۷a	l Leu	Tyr 675	Gly	Met	Ser	Ala	His 680	Arg	Leu	Ser	Gln	Glu 685	Leu	Ala	Ile
Pr	690	Glu	Glu	Ala	Val	Ala 695	Phe	Ile	Glu	Arg	Tyr 700	Phe	Gln	Ser	Phe
Pr 70	Lys	Val	Arg	Ala	Trp 710	Ile	Glu	Lys	Thr	Leu 715	Glu	Glu	Gly	Arg	Lys 720
Ar	g Gly	Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp
Le	ı Asn	Ala	Arg 740	Val	Lys	Ser	Val	Arg 745	Glu	Ala	Ala	Glu	Arg 750	Met	Ala

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795

 $\mbox{Glu Glu Val}$ Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830

Ser Ala Lys Gly His His His His His His 835

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<400> 52

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val 1 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 $$\rm 120$$

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 150150155

Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
Leu	Arg	Pro	Glu 180	Gln	Trp	Val	Asp	Phe 185	Arg	Ala	Leu	Val	Gly 190	Asp	Pro
Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lув 200	Gly	Ile	Arg	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	Lys	Ala	His	Leu 240
Glu	Asp	Leu	Arg	Leu 245	Ser	Leu	Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
Pro	Leu	Glu	Val 260	Asp	Leu	Ala	Gln	Gly 265	Arg	Glu	Pro	Asp	Arg 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Arg	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	1eu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lув 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	-Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser

Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Gly	ьуѕ	Thr 510	Gln	Lys
Thr	Gly	Ьуs 515	Arg	Ser	Thr	ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
			Ser 580		-			585					590	_	
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
	610		Ala		-	615					620	Ī			
625			Gly	-	630				_	635					640
-			Thr	645				Ī	650		·			655	
			Pro 660					665					670		
		675	Gly				680	Ī				685			
	690		Glu			695				_	700				
705	-		Arg		710			-		715					720
			Val	725					730					735	
			Arg 740		-			745					750		
Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Ьуs	Leu	Ala

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 775 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 810 Leu Ala Val Pro Leu Glu Val Glu Val Glv Met Glv Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His <210> 53 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 53 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg

165 170 175 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys Pro Ala Ile Arq Glu Lys Ile Leu Ala His Met Asp Asp Leu 230 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 250 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 385 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn 410 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 440 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val

455 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly

465				470					475					480
His Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg Ser	Ser 515	Ser	Ala	Ala	Val	Ьеи 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr Tyr 545	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	11e 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly Asp 625	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	11e 685	Pro	Tyr	Glu
Glu Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg Ala 705	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu Phe	Pro	Arg	Leu	Glu	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val

770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys

Glu His His His His His 835

<210> 54

<211> 839

<212> PRT <213> Artificial

<220>

<223> Synthetic

<400> 54

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly

Gly Tyr Lys Ala Gly Arg Ala Glu Thr Glu Glu Asp Phe Pro Arg Gln

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 165 170

PLO	Map	GIII	180	ита	nap	TAT	ALG	185	пец	1111	GIY	лар	190	DCI	Aop
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Ģly	Glu	Lys	Thr	Ala 205	Arg	ГÀЗ	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lуз 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	qaA	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Ъуз 355	Asp	Leu	Ser	Val.	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480

His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Ser 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
625					630					635				Ile	640
				645	_			-	650					Val 655	
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Glu	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val 785 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 810 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His 835 <210> 55 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 55 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 185

Asn	Leu	Pro 195	Gly	Val	Asn	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Ьув	Ile	Leu	A1a 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
	Glu 290					295					300				
305	Ala				310					315					320
	Leu			325					330					335	
	Glu		340					345					350		
	Ala	355	-				360			_		365			
	Pro 370	Ī	_	_		375					380				
385	Thr				390					395					400
	Glu		_	405					410					415	
	Leu	-	420					425					430		
	Val	435					440					445			
	Val 450					455					460				
465	Glu				470					475					480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe

Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lув 505	Lys	Thr	Lys	Lys	Thr 510	Gly	ьуs
Arg	Ser	Ser 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	ьуs	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	11e 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Glu	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Val	Leu 790	Glu	Ala	Pro	Lys	Glu 795	Arg	Ala	Glu	Ala	Val 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 825 Glu His His His His His His 835 <210> 56 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 56 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe 40 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 105 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 185 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Gln Arg Lys Leu

		195					200					205			
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu	Δνα	Dwo	T			** *	. .		774	Mot	d1	7.7.5	Thr
		435		FLO	Leu	ser	440	vaı	Leu	Ala	итв	445	GIU	AIG	****
Gly	Val 450	435					440					445			
_	Val	435 Arg	Leu	Asp	Val	Ala 455	440 Tyr	Leu	Arg	Ala	Leu 460	445 Ser	Leu	Glu	Val
Ala 465	Val 450	435 Arg Glu	L e u	Asp Ala	Val Arg 470	Ala 455 Leu	440 Tyr Glu	Leu Ala	Arg Glu	Ala Val 475	Leu 460 Phe	445 Ser Arg	Leu Leu	Glu Ala	Val Gly 480

500 505 510 Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro 520 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 535 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arq Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser 610 615 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His 630 635 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 675 680 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val 695 Arg Ala Trp Ile Glu Lvs Thr Leu Glu Glu Glv Arg Arg Arg Glv Tvr 705 710 715 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys

755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 775

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val

Ald hig bed his bys Git val hee Git Gif val lyl 110 bes his va

805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830

Glu His His His His His His

<210> 57

<211> 839 <212> PRT

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<223> Synthetic

<400> 57

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe $35 \hspace{1cm} 40 \hspace{1cm} 45$

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 95 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190

Asn Leu Pro Gly Val Lys Gly Met Gly Glu Lys Thr Gly Arg Lys Leu 195 200 205

Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	ьуs	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	ГÀЗ	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ьув	Leu	Lys 505	ьув	Thr	Lys	Lys	Thr 510	Gly	Lys

Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser 535 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arq Val Phe Gln Glu Gly Arg Asp Ile His 630 635 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp 645 650 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu 680 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val 810

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys 820 825 Glu His His His His His 835 <210> 58 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 58 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg

145

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Asn Thr Ala Arg Lys Leu 200

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215

Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Glγ 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Ala 465	Glu	Glu	Ile	Ala	Arg 470	Leu	Glu	Ala	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	Lуs 505	ГАЗ	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Ser 515	ser	Ala	Ala	Val	Ьеи 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro

Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Ьуs	Leu	Lys	Ser
Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Ile 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Gl u 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Àla	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Glu	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Val	Leu 790	Glu	Ala	Pro	Lys	Glu 795	Arg	Ala	Glu	Ala	Val 800
Ala	Arg	Leu	Ala	Ьуs 805	Glu	Val	Met	Glu	Gly 810	Val	Tyr	Pro	Leu	Ala 815	Val
Pro	Leu	Glu	Val 820	Glu	Val	Gly	Ile	Gly 825	Glu	Asp	Trp	Leu	Ser 830	Ala	Lys

Glu His His His His His 835 <210> 59 <211> 839 <212> PRT <213> Artificial <220> <223> Synthetic <400> 59 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg 170 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Pro Ala Arg Lys Leu 200 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu

225					2,50					233					240
Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	qaA	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro -	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Pro	Glu	Pro	Tyr 340	Lys	Ala	Leu	Arg	Asp 345	Leu	Lys	Glu	Ala	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ser	Val	Leu 360	Ala	Leu	Arg	Glu	Gly 365	Leu	Gly	Leu
Pro	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Glu	Ala	Gly	Glu 405	Arg	Ala	Ala	Leu	Ser 410	Glu	Arg	Leu	Phe	Ala 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Arg	Leu	Leu	Trp	Leu 430	Tyr	Arg
Glu	Val	Glu 435	Arg	Pro	Leu	Ser	Ala 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Leu	Asp	Val	Ala 455	Tyr	Leu	Arg	Ala	Leu 460	Ser	Leu	Glu	Val
Glu 465	Glu	Ile	Ala	Arg	Leu 470	Glu	Ala	Glu	Val	Phe 475	Arg	Leu	Ala	Gly	480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Lys	Leu	-Lуs 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Ser 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	Tyr	Arg	Glu	Leu	Thr 540	Lys	Leu	Гув	Ser

Thr 545	Tyr	Ile	Asp	Pro	Leu 550	Pro	Asp	Leu	Ile	His 555	Pro	Arg	Thr	Gly	Arg 560
Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	ьеи 575	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	11e 600	Ala	Glu	Glu	Gly	Trp 605	Leu	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Arg	Asp	Ile	His 640
Thr	Glu	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Arg	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Ile	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Gln	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Arg	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Glu 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Glu	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Val	Leu 790	Glu	Ala	Pro	Lys	Glu 795	Arg	Ala	Glu	Ala	Val 800
Ala	Arg	Leu	Ala	Lys 805	Glu	Val	Met	Glu	Gly 810	Val	Tyr	Pro	Leu	Ala 815	Val
Pro	Leu	Glu	Val 820	Glu	Val	Gly	Ile	Gly 825	Glu	Asp	Trp	Leu	Ser 830	Ala	Lys
Glu	His	His 835	His	His	His	His									

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<220 <22		Syntl	heti	3											
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Leu	Val	Asp	Gly 20	His	His	Leu	Ala	Tyr 25	Arg	Thr	Phe	His	Ala 30	Leu	Lys
Gly	Leu	Thr 35	Thr	Ser	Arg	Gly	Glu 40	Pro	Val	Gln	Ala	Val 45	Tyr	Gly	Phe
Ala	Lys 50	Ser	Leu	Leu	Lys	Ala 55	Leu	Lys	Glu	Asp	Gly 60	Asp	Ala	Val	Ile
Val 65	Val	Phe	Asp	Ala	Lув 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Gly 80
Gly	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Ile 100	Lys	Glu	Leu	Val	Asp 105	Leu	Leu	Gly	Phe	Thr 110	Arg	Leu
Glu	Val	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Ala	Ser 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Lys	Glu	Gly	Tyr 135	Glu	Val	Arg	Ile	Leu 140	Thr	Ala	Asp	ГАз
Asp 145	Leu	Tyr	Gln	Leu	Leu 150	Ser	Asp	Arg	Ile	His 155	Val	Leu	His	Pro	Glu 160
Gly	Tyr	Leu	Ile	Thr 165	Pro	Ala	Trp	Leu	Trp 170	Glu	Lys	Tyr	Gly	Leu 175	Arg
Pro	Asp	Gln	Trp 180	Ala	Asp	Tyr	Arg	Ala 185	Leu	Thr	Gly	Asp	Glu 190	Ser	Asp
Asn	Leu	Pro 195	Gly	Val	Lys	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Arg	Lys	Leu
Leu	Glu 210	Glu	Trp	Gly	Ser	Leu 215	Glu	Ala	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Lys	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu

	245	:	250	255
Val Asp Phe Ala 260	Lys Arg Arg	Glu Pro 2 265	Asp Arg Glu Ar	rg Leu Arg Ala 270
Phe Leu Glu Arg 275	Leu Glu Phe	Gly Ser 1 280	Leu Leu His Gl 28	
Leu Glu Ser Pro 290	Lys Ala Leu 295	Glu Glu A	Ala Pro Trp Pi 300	o Pro Pro Glu
Gly Ala Phe Val 305	Gly Phe Val 310	Leu Ser A	Arg Lys Glu Pi 315	ro Met Trp Ala 320
Asp Leu Leu Ala	Leu Ala Ala 325		Gly Gly Arg Va 330	al His Arg Ala 335
Pro Glu Pro Tyr 340	Lys Ala Leu	Arg Asp 1	Leu Lys Glu Al	la Arg Gly Leu 350
Leu Ala Lys Asp 355	Leu Ser Val	Leu Ala 1 360	Leu Arg Glu Gl 36	
Pro Pro Gly Asp 370	Asp Pro Met 375	Leu Leu i	Ala Tyr Leu Le 380	u Asp Pro Ser
Asn Thr Thr Pro 385	Glu Gly Val 390	Ala Arg A	Arg Tyr Gly Gl 395	ly Glu Trp Thr 400
Glu Glu Ala Gly	Glu Arg Ala 405		Ser Glu Arg Le 410	eu Phe Ala Asn 415
Leu Leu Lys Arg 420	Leu Glu Gly	Glu Glu A 425	Arg Leu Leu Ti	rp Leu Tyr Arg 430
Glu Val Glu Arg 435	Pro Leu Ser	Ala Val 1 440	Leu Ala His Me 44	
Gly Val Arg Leu 450	Asp Val Ala 455	Tyr Leu l	Arg Ala Leu Se 460	r Leu Glu Val
Ala Glu Glu Ile 465	Ala Arg Leu 470	Glu Ala	Glu Val Phe Ai 475	ng Leu Ala Gly 480
His Pro Phe Asn	Leu Asn Ser 485		Gln Leu Glu Ai 490	g Val Leu Phe 495
Asp Glu Leu Arg 500	Leu Pro Lys	Leu Lys 1 505	Lys Thr Lys Ly	s Thr Gly Lys 510
Arg Ser Ser Ser 515	Ala Ala Val	Leu Glu 2 520	Ala Leu Arg G 52	
Ile Val Glu Lys 530	Ile Leu Gln 535	Tyr Arg	Glu Leu Thr Ly 540	s Leu Lys Ser
Thr Tyr Ile Asp	Pro Leu Pro	Asp Leu	Ile His Pro A	g Thr Gly Arg

545	550		555	560
Leu His Thr A	rg Phe Asn Gl 565	n Thr Ala Thr 570	Ala Thr Gly A	g Leu Ser 575
	ro Asn Leu Gl 30	n Asn Ile Pro 585	Val Arg Thr Pa	o Leu Gly
Gln Arg Ile A	rg Arg Ala Ph	ne Ile Ala Glu 600	Glu Gly Trp Le 605	eu Leu Val
Ala Leu Asp T 610	yr Ser Gln Il 61		Val Leu Ala Hi 620	is Leu Ser
Gly Asp Glu A 625	sn Leu Ile Ar 630	rg Val Phe Gln	Glu Gly Arg As 635	sp Ile His 640
Thr Glu Thr A	la Ser Trp Me 645	t Phe Gly Val 650	Pro Arg Glu Al	la Val Asp 655
	rg Arg Ala Al 50	a Lys Thr Ile 665	Asn Phe Gly Va	
Gly Met Ser A	la His Ala Le	u Ser Gln Glu 680	Leu Ala Ile Pi 685	o Tyr Glu
Glu Ala Gln A 690	la Phe Ile Gl 69		Gln Ser Phe Pr 700	o Lys Val
Arg Ala Trp I 705	le Glu Lys Th 710	ır Leu Glu Glu	Gly Arg Arg An 715	rg Gly Tyr 720
Val Glu Thr L	eu Phe Gly Ar 725	g Arg Arg Tyr 730	Val Pro Asp Le	eu Glu Ala 735
	er Val Arg Gl 10	u Ala Ala Glu 745	Arg Met Ala Ph 75	ne Asn Met 50
Pro Val Gln G	ly Thr Ala Al	a Asp Leu Met 760	Lys Leu Ala Me 765	et Val Lys
Leu Phe Pro A	rg Leu Glu Gl 77		Arg Met Leu Le 780	eu Gln Val
Ala Asn Glu L 785	eu Val Leu Gl 790	u Ala Pro Lys	Glu Arg Ala Gl 795	u Ala Val 800
Ala Arg Leu A	la Lys Glu Va 805	ıl Met Glu Gly 810	Val Tyr Pro Le	eu Ala Val 815
	al Glu Val Gl 20	y Ile Gly Glu 825	Asp Trp Leu Se	
Glu His His H 835	is His His Hi	.s		
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Gly Leu Thr Thr Ser Arg Gly Glu Pro	Val Gln Ala Val Tyr Gly Phe 45
Ala Lys Ser Leu Leu Lys Ala Leu Lys	Glu Asp Gly Asp Ala Val Ile
50 55	60
Val Val Phe Asp Ala Lys Ala Pro Ser	Phe Arg His Glu Ala Tyr Gly
65 70	75 80
Gly Tyr Lys Ala Gly Arg Ala Pro Thr	Pro Glu Asp Phe Pro Arg Gln
85	90 95
Leu Ala Leu Ile Lys Glu Leu Val Asp 100 105	
Glu Val Pro Gly Tyr Glu Ala Asp Asp	Val Leu Ala Ser Leu Ala Lys
115 120	125
Lys Ala Glu Lys Glu Gly Tyr Glu Val	Arg Ile Leu Thr Ala Asp Lys
Asp Leu Tyr Gln Leu Leu Ser Asp Arg	Ile His Val Leu His Pro Glu
145 150	155 160
Gly Tyr Leu Ile Thr Pro Ala Trp Leu	Trp Glu Lys Tyr Gly Leu Arg
165	170 175
Pro Asp Gln Trp Ala Asp Tyr Arg Ala 180 185	
Asn Leu Pro Gly Val Lys Gly Ile Gly	Glu Lys Thr Ala Arg Lys Leu
195 200	205
Leu Glu Glu Trp Gly Ser Leu Glu Ala	Leu Leu Lys Asn Leu Asp Arg
210 215	220
Leu Lys Pro Ala Ile Arg Glu Lys Ile	Leu Ala His Met Asp Asp Leu
225 230	235 240
Lys Leu Ser Trp Asp Leu Ala Lys Val	Arg Thr Asp Leu Pro Leu Glu
245	250 255

Val Asn Phe Ala Lys Arg Arg Glu Pro Asn Arg Glu Arg Leu Arg Ala

			260	-,-	5	3		265		3			270		
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Let
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Ьуs 315	Glu	Pro	Met	Trp	Ala 320
Asp	Leu	Leu	Ala	Leu 325	Ala	Ala	Ala	Arg	Gly 330	Gly	Arg	Val	His	Arg 335	Ala
Ala	Asp	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
Leu	Leu	Lys	Arg 420	Leu	Glu	Gly	Glu	Glu 425	Lys	Leu	Leu	Trp	Leu 430	Tyr	His
Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Arg	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480
His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
Ile	∀al 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560

Leu	His	Thr	Arg	Phe 565	Asn	Gln	Thr	Ala	Thr 570	Ala	Thr	Gly	Arg	Leu 5 7 5	Ser
Ser	Ser	Asp	Pro 580	Asn	Leu	Gln	Asn	Ile 585	Pro	Val	Arg	Thr	Pro 590	Leu	Gly
Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser
Gly 625	Asp	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val
Arg 705	Ala	Trp	Ile	Glu	Lys 710	Thr	Leu	Glu	Glu	Gly 715	Arg	Lys	Arg	Gly	Tyr 720
Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Asn 735	Ala
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Arg	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Leu	Leu 790	Glu	Ala	Pro	Gln	Ala 795	Arg	Ala	Glu	Glu	Val 800
Ala	Ala	Leu	Ala	Lys 805	Glu	Ala	Met	Glu	Lys 810	Ala	Tyr	Pro	Leu	Ala 815	Val
Pro	Leu	Glu	Val 820	Glu	Val	Gly	Met	Gly 825	Glu	Asp	Trp	Leu	Ser 830	Ala	Lys
Gly	His	His 835	His	His	His	His									
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пси	ALG	275	FIIC	LCu	014	ni 9	280	O_u		027		285			
Phe	Gly 290	Leu	Leu	Glu	Ala	Pro 295	Ala	Pro	Leu	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Val	Leu 315	Ser	Arg	Pro	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Lys	Ala	Leu	Ala	Ala 330	Cys	Arg	Gly	Gly	Arg 335	Val
His	Arg	Ala	Pro 340	Glu	Pro	Tyr	Lys	Ala 345	Leu	Arg	qaA	Leu	Lys 350	Glu	Ala
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ser	Val	Leu	Ala	Leu 365	Arg	Glu	Gly
Leu	Gly 370	Leu	Pro	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Glu 405	Ala	Gly	Glu	Arg	Ala 410	Ala	Leu	Ser	Glu	Arg 415	Leu
Phe	Ala	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Arg	Leu 430	Leu	Trp
Leu	Tyr	Arg 435	Glu	Val	Glu	Arg	Pro 440	Leu	Ser	Ala	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Arg	Ala	Leu	Ser
Leu 465	Glu	Val	Ala	Glu	Glu 470	Ile	Ala	Arg	Leu	Glu 475	Ala	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Gly	Leu	Pro 505	Ala	Ile	Lys	Lys	Thr 510	Gln	Lys
Thr	Gly	Ьуs 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	Tyr	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Ser	Thr	Tyr	Ile 550	Asp	Pro	Leu	Pro	Asp 555	Leu	Ile	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr 585 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp 600 Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 695 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 760 Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala 790 Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro 805 Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu 825 Ser Ala Lvs Glu His His His His His His 835 840

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Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu 65 70 . 75 80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu 100 105 110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys 115 120 125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 135 140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp 145 $$ 150 $$ 155 $$ 160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 170

Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp 180 185 190

Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu 195 200 205

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg 210 215 220

Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp 225 230 235 240

Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu 245 250 255

Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly

Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe	Gly 290	Leu	Leu	Gly	Gly	G1u 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	ГÀв	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Glu	Gly	Arg 335	Val
His	Arg	Ala	Thr 340	Ser	Pro	Val	Glu	Ala 345	Leu	Ala	Asp	Leu	Ьув 350	Glu	Ala
Arg	Gly	Phe 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Leu 365	Arg	Glu	Gly
Val	Ala 370	Leu	Asp	Pro	Thr	Asp 375	Asp	Pro	Leu	Leu	Val 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ala	Asn	Thr	His 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Phe	Thr	Glu	Asp 405	Ala	Ala	Glu	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
Phe	Gln	Asn	Leu 420	Phe	Lys	Arg	Leu	Ser 425	Glu	Lys	Leu	Leu	Trp 430	Leu	Tyr
Gln	Glu	Val 435	Glu	Arg	Pro	Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
Arg	Gly 450	Val	Arg	Leu	Asp	Val 455	Pro	Leu	Leu	Glu	Ala 460	Leu	Ser	Phe	Glu
Leu 465	Glu	Lys	Glu	Met	Glu 470	Arg	Leu	Glu	Gly	Glu 475	Val	Phe	Arg	Leu	Ala 480
Gly	His	Pro	Phe	Asn 485	Leu	Asn	Ser	Arg	Asp 490	Gln	Leu	Glu	Arg	Val 495	Leu
Phe	Asp	Glu	Leu 500	Gly	Leu	Thr	Pro	Val 505	Gly	Arg	Thr	Gln	Lys 510	Thr	Gly
Lys	Arg	Ser 515	Thr	Ala	Gln	Gly	Ala 520	Leu	Glu	Ala	Leu	Arg 525	Gly	Ala	His
Pro	Ile 530	Val	Glu	Leu	Ile	Leu 535	Gln	Tyr	Arg	Glu	Leu 540	Ser	Lys	Leu	Lys
Ser 545	Thr	Tyr	Leu	Asp	Pro 550	Leu	Pro	Arg	Leu	Val 555	His	Pro	Arg	Thr	Gly 560
Arg	Leu	His	Thr	Arg 565	Phe	Asn	Gln	Thr	Ala 570	Thr	Ala	Thr	Gly	Arg 575	Leu
Ser	Ser	Ser	Asp 580	Pro	Asn	Leu	Gln	Asn 585	Ile	Pro	Val	Arg	Thr 590	Pro	Leu

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Gly Gln Arg Ile Arg Lys Ala Phe Val Ala Glu Glu Gly Trp Leu Leu
                            600
Leu Ala Ala Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
                        615
Ser Gly Asp Glu Asn Leu Lys Arg Val Phe Arg Glu Gly Lys Asp Ile
                   630
                                        635
His Thr Glu Thr Ala Ala Trp Met Phe Gly Leu Asp Pro Ala Leu Val
                                    650
Asp Pro Lys Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Gly Ile Asp Tyr
Lys Glu Ala Glu Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
Val Arg Ala Trp Ile Glu Arg Thr Leu Glu Glu Gly Arg Thr Arg Gly
Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala
Ser Arg Val Arg Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Ile Ala Met Val
Lys Leu Phe Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln
Val His Asn Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu
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317

Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly

	290					295					300				
Ala 305	Phe	Val	Gly	Tyr	Val 310	Leu	Ser	Arg	Pro	Glu 315	Pro	Met	Trp	Ala	Glu 320
Leu	Asn	Ala	Leu	Ala 325	Ala	Ala	Trp	Glu	Gly 330	Arg	Val	Tyr	Arg	Ala 335	Glu
Asp	Pro	Leu	Glu 340	Ala	Leu	Arg	Gly	Leu 345	Gly	Glu	Val	Arg	Gly 350	Leu	Leu
Ala	ьуs	Asp 355	Leu	Ala	Val	Leu	Ala 360	Leu	Arg	Glu	Gly	11e 365	Ala	Leu	Ala
Pro	Gly 370	Asp	Asp	Pro	Met	Leu 375	Leu	Ala	Tyr	Leu	Leu 380	Yab	Pro	Ser	Asn
Thr 385	Ala	Pro	Glu	Gly	Val 390	Ala	Arg	Arg	Tyr	Gly 395	Gly	Glu	Trp	Thr	Glu 400
Glu	Ala	Gly	Glu	Arg 405	Ala	Leu	Leu	Ser	Glu 410	Arg	Leu	Tyr	Ala	Ala 415	Leu
Leu	Lys	Arg	Leu 420	Lys	Gly	Glu	Glu	Arg 425	Leu	Leu	Trp	Leu	Tyr 430	Glu	Glu
Val	Glu	Lys 435	Pro	Leu	Ser	Arg	Val 440	Leu	Ala	His	Met	Glu 445	Ala	Thr	Gly
Val	Arg 450	Leu	Asp	Val	Ala	Tyr 455	Leu	Lys	Ala	Leu	Ser 460	Leu	Glu	Val	Glu
Ala 465	Glu	Ile	Arg	Arg	Phe 470	Glu	Glu	Glu	Val	His 475	Arg	Leu	Ala	Gly	His 480
Pro	Phe	Asn	Leu	Asn 485	Ser	Arg	Asp	Gln	Leu 490	Glu	Arg	Val	Ile	Phe 495	Asp
Glu	Leu	Gly	Leu 500	Pro	Ala	Ile	Gly	Lys 505	Thr	Gln	Lys	Thr	Gly 510	Lys	Arg
ser	Thr	Ser 515	Ala	Ala	Val	Leu	Glu 520	Ala	Leu	Arg	Glu	Ala 525	His	Pro	Ile
Val	Asp 530	Arg	Ile	Leu	Gln	Tyr 535	Arg	Glu	Leu	Ser	Lys 540	Leu	Lys	Gly	Thr
Tyr 545	Ile	Asp	Pro	Leu	Pro 550	Ala	Leu	Val	His	Pro 555	Lys	Thr	Asn	Arg	Leu 560
His	Thr	Arg	Phe	Asn 565	Gln	Thr	Ala	Thr	Ala 570	Thr	Gly	Arg	Leu	Ser 575	Ser
Ser	Asp	Pro	Asn 580	Leu	Gln	Asn	Ile	Pro 585	Val	Arg	Thr	Pro	Leu 590	Gly	Gln
Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Glu	Gly	Trp	Arg	Leu	Val	Val

595 600 605 Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly 615 Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Gln Asp Ile His Thr 630 Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Ser 645 650 Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gly Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Tyr Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Ala Glu Gly Arg Glu Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Ala Ser Arg Val Lys Ser Ile Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Gln Ala Glu Glu Val Ala Gln Glu Ala Lys Arg Thr Met Glu Glu Val Trp Pro Leu Lys Val Pro 810

Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Ala 820 825 830

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Ser	Leu	Thr 35	Thr	Ser	Arg	Gly	Glu 40	Pro	Val	Gln	Met	Val 45	Tyr	Gly	Phe
Ala	Arg 50	ser	Leu	Leu	Lys	Ala 55	Leu	Lys	Glu	Asp	Gly 60	Gln	Ala	Val	Val
Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Glu 80
Ala	Tyr	Lys	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Val 100	Lys	Arg	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Val 110	Arg	Leu
Glu	Ala	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Gly	Thr 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Arg	Glu	Gly	Met 135	Glu	Val	Arg	Ile	Leu 140	Thr	Gly	Asp	Arg
Asp 145	Phe	Phe	Gln	Leu	Leu 150	Ser	Glu	Lys	Val	Ser 155	Val	Leu	Leu	Pro	Asp 160
Gly	Thr	Leu	Val	Thr 165	Pro	Lys	Asp	Val	Gln 170	Glu	Lys	Tyr	Gly	Val 175	Pro
Pro	Glu	Arg	Trp 180	Val	Asp	Phe	Arg	Ala 185	Leu	Thr	Gly	Asp	Arg 190	Ser	Asp
Asn	Ile	Pro 195	Gly	Val	Ala	Gly	Ile 200	Gly	Glu	Lys	Thr	Ala 205	Leu	Arg	Leu
Leu	Ala 210	Glu	Trp	Gly	Ser	Val 215	Glu	Asn	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Val 225	Lys	Pro	Asp	Ser	Leu 230	Arg	Arg	Lys	Ile	Glu 235	Ala	His	Leu	Glu	Asp 240
Leu	His	Leu	Ser	Leu 245	Asp	Leu	Ala	Arg	11e 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Lys	Ala	Leu	Arg	Arg 265	Arg	Thr	Pro	Asp	Leu 270	Glu	Gly
Leu	Arg	Ala 275	Phe	Leu	Glu	Glu	Leu 280	Glu	Phe	Gly	Ser	Leu 285	Leu	His	Glu
Phe	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	Lys	Glu	Pro 320

Met	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	ьуз	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	ser	Thr	ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	ser	ser 580	ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 ASD Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 650 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 825 Ser Ala Lys Gly His His His His His 835 840 <210> 66 <211> 838 <212> PRT <213> Artificial <220> <223> Synthetic <400> 66 Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val 10 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu 20 25

Thr	Thr	Ser 35	Arg	Gly	Glu	Pro	Val 40	Gln	Ala	Val	Tyr	Gly 45	Phe	Ala	Lys
Ser	Leu 50	Leu	Lys	Ala	Leu	Arg 55	Glu	Asp	Gly	Asp	Val 60	Val	Ile	Val	Val
Phe 65	Asp	Ala	Lys	Ala	Pro 70	Ser	Phe	Arg	His	Gln 75	Thr	Tyr	Glu	Ala	Tyr 80
Гув	Ala	Gly	Arg	Ala 85	Pro	Thr	Pro	Glu	Asp 90	Phe	Pro	Arg	Gln	Leu 95	Ala
Leu	Ile	Lys	Glu 100	Met	Val	Asp	Leu	Leu 105	Gly	Leu	Glu	Arg	Leu 110	Glu	Val
Pro	Gly	Phe 115	Glu	Ala	Asp	Asp	Val 120	Leu	Ala	Thr	Leu	Ala 125	Lys	Lys	Ala
Glu	Lys 130	Glu	Gly	Tyr	Glu	Val 135	Arg	Ile	Leu	Thr	Ala 140	Asp	Arg	Asp	Leu
Tyr 145	Gln	Leu	Leu	Ser	Glu 150	Arg	Ile	Ser	Ile	Leu 155	Hìs	Pro	Glu	Gly	Tyr 160
Leu	Ile	Thr	Pro	Glu 165	Trp	Leu	Trp	Glu	Lys 170	Tyr	Gly	Leu	Lys	Pro 175	Ser
Gln	Trp	Val	Asp 180	Tyr	Arg	Ala	Leu	Ala 185	Gly	Asp	Pro	Ser	Asp 190	Asn	Ile
Pro	Gly	Val 195	Lys	Gly	Ile	Gly	Glu 200	Lys	Thr	Ala	Ala	Lys 205	Leu	Ile	Arg
Glu	Trp 210	Gly	Ser	Leu	Glu	Asn 215	Leu	Leu	Lys	His	Leu 220	Glu	Gln	Val	Lys
Pro 225	Ala	Ser	Val	Arg	Glu 230	Lys	Ile	Leu	Ser	His 235	Met	Glu	Asp	Leu	Lys 240
Leu	Ser	Leu	Glu	Leu 245	Ser	Arg	Val	His	Thr 250	Asp	Leu	Leu	Leu	Gln 255	Val
Asp	Phe	Ala	Arg 260	Arg	Arg	Glu	Pro	Asp 265	Arg	Glu	Gly	Leu	Lys 270	Ala	Phe
Leu	Glu	Arg 275	Leu	Glu	Phe	Gly	Ser 280	Leu	Leu	His	Glu	Phe 285	Gly	Leu	Leu
Glu	Ser 290	Pro	Val	Ala	Ala	Glu 295	Glu	Ala	Pro	Trp	Pro 300	Pro	Pro	Glu	Gly
Ala 305	Phe	Val	Gly	Tyr	Val 310	Leu	Ser	Arg	Pro	Glu 315	Pro	Met	Trp	Ala	Glu 320
Leu	Asn	Ala	Leu	Ala 325	Ala	Ala	Trp	Gly	Gly 330	Arg	Val	His	Arg	Ala 335	Ala

Asp	Pro	Leu	Ala 340	Gly	Leu	Lys	Asp	Leu 345	Lys	Glu	Val	Arg	Gly 350	Leu	Leu
Ala	Lys	Asp 355	Leu	Ala	Val	Leu	Ala 360	Ser	Arg	Glu	Gly	Leu 365	Asp	Leu	Val
Pro	Gly 370	Asp	Asp	Pro	Met	Leu 375	Leu	Ala	Tyr	Leu	Leu 380	Asp	Pro	Ser	Asn
Thr 385	Thr	Pro	Glu	Gly	Val 390	Ala	Arg	Arg	Tyr	Gly 395	Gly	Glu	Trp	Thr	Glu 400
Asp	Ala	Ala	His	Arg 405	Ala	Leu	Leu	Ser	Glu 410	Arg	Leu	His	Arg	Asn 415	Leu
Leu	Lys	Arg	Leu 420	Glu	Gly	Glu	Glu	Lys 425	Leu	Leu	Trp	Leu	Tyr 430	His	Glu
Val	Glu	Lys 435	Pro	Leu	Ser	Arg	Val 440	Leu	Ala	His	Met	Glu 445	Ala	Thr	Gly
Val	Arg 450	Arg	Asp	Val	Ala	Tyr 455	Leu	Gln	Ala	Leu	Ser 460	Leu	Glu	Leu	Ala
Glu 465	Glu	Ile	Arg	Arg	Leu 470	Glu	Glu	Glu	Val	Phe 475	Arg	Leu	Ala	Gly	His 480
Pro	Phe	Asn	Leu	Asn 485	Ser	Arg	Asp	Gln	Leu 490	G1u	Arg	Val	Leu	Phe 495	Asp
Glu	Leu	Arg	Leu 500	Pro	Ala	Leu	Lys	Lуs 505	Thr	Lys	Lys	Thr	Gly 510	Lys	Arg
Ser	Thr	Ser 515	Ala	Ala	Val	Leu	Glu 520	Ala	Leu	Arg	Glu	Ala 525	His	Pro	Ile
Val	Glu 530	Lys	Ile	Leu	Gln	His 535	Arg	Glu	Leu	Thr	Lys 540	Leu	Lys	Asn	Thr
Tyr 545	Val	Asp	Pro	Leu	Pro 550	Ser	Leu	Val	His	Pro 555		Thr	Gly	Arg	Leu 560
His	Thr	Arg	Phe	Asn 565	Gln	Thr	Ala	Thr	Ala 570	Thr	Gly	Arg	Leu	Ser 575	Ser
Ser	Asp	Pro	Asn 580	Leu	Gln	Asn	Ile	Pro 585	Val	Arg	Thr	Pro	Leu 590	Gly	Gln
Arg	Ile	Arg 595	Arg	Ala	Phe	Val	Ala 600	Glu	Ala	Gly	Trp	Ala 605	Leu	Val	Ala
Leu	Asp 610	Tyr	Ser	Gln	Ile	Glu 615	Leu	Arg	Val	Leu	Ala 620	His	Leu	Ser	Gly
Asp 625	Glu	Asn	Leu	Ile	Arg 630	Val	Phe	Gln	Glu	Gly 635	Lys	Asp	Ile	His	Thr 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg 695 Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala 785 790 795 Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His 835 <210> 67 <211> 842 <212> PRT <213> Artificial <220> <223> Synthetic <400> 67 Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val 10 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val

Ala	50	ser	ьeu	Leu	гЛя	55	ьеи	гуя	GIU	Asp	60 60	GIII	Ala	Val	vai
Val 65	Val	Phe	Asp	Ala	Lys 70	Ala	Pro	Ser	Phe	Arg 75	His	Glu	Ala	Tyr	Glu 80
Ala	Tyr	ГАЗ	Ala	Gly 85	Arg	Ala	Pro	Thr	Pro 90	Glu	Asp	Phe	Pro	Arg 95	Gln
Leu	Ala	Leu	Val 100	Lys	Arg	Leu	Val	Asp 105	Leu	Leu	Gly	Leu	Val 110	Arg	Leu
Glu	Ala	Pro 115	Gly	Tyr	Glu	Ala	Asp 120	Asp	Val	Leu	Gly	Thr 125	Leu	Ala	Lys
Lys	Ala 130	Glu	Arg	Glu	Gly	Met 135	Glu	Val	Arg	Ile	Leu 140	Thr	Gly	Asp	Arg
Asp 145	Phe	Phe	Gln	Leu	Leu 150	Ser	Glu	Гуs	Val	Ser 155	Val	Leu	Leu	Pro	Asp 160
Gly	Thr	Leu	Val	Thr 165	Pro	Lys	Asp	Val	Gln 170	Glu	Lys	Tyr	Gly	Val 175	Pro
Pro	Glu	Arg	Trp 180	Val	Asp	Phe	Arg	Ala 185	Leu	Thr	Gly	qaA	Arg 190	Ser	Asp
Asn	Ile	Pro 195	Gly	Val	Ala	Gly	Ile 200	Gly	Glu	ьув	Thr	Ala 205	Leu	Arg	Leu
Leu	Ala 210	Glu	Trp	Gly	Ser	Val 215	Glu	Asn	Leu	Leu	Lys 220	Asn	Leu	Asp	Arg
Val 225	Lys	Pro	Asp	Ser	Leu 230	Arg	Arg	Lys	Ile	Glu 235	Ala	His	Leu	Glu	Asp 240
Leu	His	Leu	Ser	Leu 245	Asp	Leu	Ala	Arg	Ile 250	Arg	Thr	Asp	Leu	Pro 255	Leu
Glu	Val	Asp	Phe 260	Lys	Ala	Leu	Arg	Arg 265	Arg	Thr	Pro	Asp	Leu 270	Glu	Gly
	Arg	275					280			-		285			
Phe	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	Lys	Glu	Pro 320
	Trp			325					330			_	_	335	
His	Arg	Ala	Pro 340	Glu	Pro	Tyr	Lys	Ala 345	Leu	Arg	Asp	Leu	Lys 350	Glu	Ala

Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	ser	Val	Leu	Ala	Leu 365	Arg	Glu	Gly
Leu	Gly 370	Leu	Pro	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	Ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Glu 405	Ala	Gly	Glu	Arg	Ala 410	Ala	Leu	Ser	Glu	Arg 415	Leu
Phe	Ala	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Arg	Leu 430	Leu	Trp
Leu	Tyr	Arg 435	Glu	Val	Glu	Arg	Pro 440	Leu	Ser	Ala	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Leu 455	Asp	Val	Ala	Tyr	Leu 460	Arg	Ala	Leu	Ser
Leu 465	Glu	Val	Ala	Glu	Glu 470	Ile	Ala	Arg	Leu	Glu 475	Ala	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Gly	Leu	Pro 505	Ala	Ile	Lys	Lys	Thr 510	Gln	ГЛа
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	Tyr	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Ser	Thr	Tyr	Ile 550	Asp	Pro	Leu	Pro	Asp 555	Leu	Ile	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Ile	Ala	Glu 605	Glu	Gly	Trp.
Leu	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Arg 640
Asp	Ile	His	Thr	Glu 645	Thr	Ala	Ser	Trp	Met 650	Phe	Gly	Val	Pro	Arg 655	Glu

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 760 Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala 790 Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro 805 Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His His 840 <210> 68 <211> 838 <212> PRT <213> Artificial <220> <223> Synthetic <400> 68 Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys $35 \hspace{1cm} 40 \hspace{1cm} 45$

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val

50 55 60 Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala 120 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser Gln Trp Val Asp Tyr Arq Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg 200 Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys Pro Ala Ser Val Arq Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys 225 235 240 Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Gln Val 250 Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe 265 Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val His Arg Ala Pro

Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu 340 345 350 Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro

365 355 360 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn Leu Leu Lys Arg Leu Glu Glu Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr Gly 440 445 435 Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Glv Trp Leu Leu Val Ala 600 Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro

Leu Met Arq Arq Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly

		660					665					670			
Met Se	r Ala 675	His	Arg	Leu	Ser	Gln 680	Glu	Leu	Ala	Ile	Pro 685	Tyr	Glu	Glu	
Ala Gl 69		Phe	Ile	Glu	Arg 695	Tyr	Phe	Gln	Ser	Phe 700	Pro	Lys	Val	Arg	
Ala Tr 705	p Ile	Glu	Lys	Thr 710	Leu	Glu	Glu	Gly	Arg 715	Arg	Arg	Gly	Tyr	Val 720	
Glu Th	r Leu	Phe	Gly 725	Arg	Arg	Arg	туг	Val 730	Pro	Asp	Leu	Glu	Ala 735	Arg	
Val Ly	s Ser	Val 740	Arg	Glu	Ala	Ala	Glu 745	Arg	Met	Ala	Phe	Asn 750	Met	Pro	
Val Gl	n Gly 755	Thr	Ala	Ala	Asp	Leu 760	Met	Lys	Leu	Ala	Met 765	Val	Lys	Leu	
Phe Pr 77		Leu	Glu	Glu	Met 775	Gly	Ala	Arg	Met	Leu 780	Leu	Gln	Val	Ala	
Asn Gl 785	u Leu	Val	Leu	Glu 790	Ala	Pro	Lys	Glu	Arg 795	Ala	Glu	Ala	Val	Ala 800	
Arg Le	u Ala	Lys	Glu 805	Val	Met	Glu	Gly	Val 810	Tyr	Pro	Leu	Ala	Val 815	Pro	
Leu Gl	u Val	Glu 820	Val	Gly	Ile	Gly	Glu 825	Asp	Trp	Leu	Ser	Ala 830		Glu	
His Hi	s His 835	His	His	His											
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gacgtc	ctgg	ccag	cctg	ge e	aaga	aggc	g ga	aaag	gagg	gcta	acga	ggt	ccgc	atcctc	42

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2212 | DNA
2233 | Artificial

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223 | Synthetic
2220 |
2211 | n
2222 | (1)...(2502)
2223 | n is any of the bases g, a, t, or c
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Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu

454

325

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Ar	g Leu 450	Asp	Val	Ala	Tyr	Leu 455	Gln	Ala	Leu	Ser	Leu 460	Glu	Val	Glu	Ala
G1 46	u Val 5	Arg	Gln	Leu	Glu 470	Glu	Glu	Val	Phe	Arg 475	Leu	Ala	Gly	His	Pro 480
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695 700 690

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Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val

Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val

Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Arg Leu Phe

Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu Leu Gln Val His Asp

Glu Leu Val Leu Glu Ala Pro Lys Asp Arg Ala Glu Arg Val Ala Ala

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Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Xaa Val

Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu Ala

Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Xaa Arg Leu Glu 105 Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile Ala Val Leu His Pro Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro 170 Glu Gln Trp Val Asp Tyr Arg Ala Leu Xaa Gly Asp Pro Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Xaa Lys Leu Leu 200 Xaa Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val 210 215 Lys Pro Xaa Xaa Arg Glu Lys Ile Xaa Ala His Met Glu Asp Leu Xaa 225 230 235 Leu Ser Xaa Xaa Leu Ser Xaa Val Arg Thr Asp Leu Pro Leu Glu Val 250 245 Asp Phe Ala Xaa Arg Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu 275 280 Glu Xaa Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Arg Xaa Gly Arg Val His Arg Ala Xaa Asp Pro Leu Xaa Gly Leu Arg Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly Leu Asp Leu Xaa Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn 375

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Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser
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880

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Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu 65 70 75 80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln 85 90 95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 105 110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys 115 120 125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 135 140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp 145 150 155 160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 175

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Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu 195 \$200\$

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Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp 225 230 235

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Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly

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Lys	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
Leu	Glu 290	Ser	Pro	Lys	Ala	Leu 295	Glu	Glu	Ala	Pro	Trp 300	Pro	Pro	Pro	Glu
Gly 305	Ala	Phe	Val	Gly	Phe 310	Val	Leu	Ser	Arg	Lys 315	Glu	Pro	Met	Trp	Ala 320
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Ala	qaA	Pro	Leu 340	Ala	Gly	Leu	Lys	Asp 345	Leu	Lys	Glu	Val	Arg 350	Gly	Leu
Leu	Ala	Lys 355	Asp	Leu	Ala	Val	Leu 360	Ala	Ser	Arg	Glu	Gly 365	Leu	Asp	Leu
Val	Pro 370	Gly	Asp	Asp	Pro	Met 375	Leu	Leu	Ala	Tyr	Leu 380	Leu	Asp	Pro	Ser
Asn 385	Thr	Thr	Pro	Glu	Gly 390	Val	Ala	Arg	Arg	Tyr 395	Gly	Gly	Glu	Trp	Thr 400
Glu	Asp	Ala	Ala	His 405	Arg	Ala	Leu	Leu	Ser 410	Glu	Arg	Leu	His	Arg 415	Asn
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Glu	Val	Glu 435	Lys	Pro	Leu	Ser	Arg 440	Val	Leu	Ala	His	Met 445	Glu	Ala	Thr
Gly	Val 450	Arg	Arg	Asp	Val	Ala 455	Tyr	Leu	Gln	Ala	Leu 460	Ser	Leu	Glu	Leu
Ala 465	Glu	Glu	Ile	Arg	Arg 470	Leu	Glu	Glu	Glu	Val 475	Phe	Arg	Leu	Ala	Gly 480

His	Pro	Phe	Asn	Leu 485	Asn	Ser	Arg	Asp	Gln 490	Leu	Glu	Arg	Val	Leu 495	Phe	
Asp	Glu	Leu	Arg 500	Leu	Pro	Ala	Leu	Lys 505	Lys	Thr	Lys	Lys	Thr 510	Gly	Lys	
Arg	Ser	Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro	
Ile	Val 530	Glu	Lys	Ile	Leu	Gln 535	His	Arg	Glu	Leu	Thr 540	Lys	Leu	Lys	Asn	
Thr 545	Tyr	Val	Asp	Pro	Leu 550	Pro	Ser	Leu	Val	His 555	Pro	Arg	Thr	Gly	Arg 560	
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Gln	Arg	Ile 595	Arg	Arg	Ala	Phe	Val 600	Ala	Glu	Ala	Gly	Trp 605	Ala	Leu	Val	
Ala	Leu 610	Asp	Tyr	Ser	Gln	Ile 615	Glu	Leu	Arg	Val	Leu 620	Ala	His	Leu	Ser	
Gly 625	qeA	Glu	Asn	Leu	Ile 630	Arg	Val	Phe	Gln	Glu 635	Gly	Lys	Asp	Ile	His 640	
Thr	Gln	Thr	Ala	Ser 645	Trp	Met	Phe	Gly	Val 650	Pro	Pro	Glu	Ala	Val 655	Asp	
Pro	Leu	Met	Arg 660	Arg	Ala	Ala	Lys	Thr 665	Val	Asn	Phe	Gly	Val 670	Leu	Tyr	
Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu	
Glu	Ala 690	Val	Ala	Phe	Ile	Glu 695	Arg	Tyr	Phe	Gln	Ser 700	Phe	Pro	Lys	Val	
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Val	Glu	Thr	Leu	Phe 725	Gly	Arg	Arg	Arg	Tyr 730	Val	Pro	Asp	Leu	Asn 735	Ala	
Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met	
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys	
Leu	Phe 770	Pro	Arg	Leu	Arg	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val	

Ala Asn Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val 785 795 790 Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val 805 **81**0 Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys 820 825 830 Clv His His His His His His 835 <210> 497 <211> 2526 <212> DNA <213> Artificial <220> <223> Synthetic atgaattcca ccccactttt tgacctggag gaacccccca agggggtgct tctggtggac 60 qqccaccacc tqqcctaccq caccttctat qccctqaqcc tcaccacctc ccqqqqqqaq 120 ccggtgcaga tggtctacgg cttcgcccgg agcctcctca aggccttgaa ggaggacgga 180 caggoggtgg togtggtott tqacgocgaq qccccctcct tccgccacga qgcctacgag 240 qcctacaaqg cqqqccgqqc ccccaccccq qaqgacttcc cccgccagct cgccttqgtc 300 aageggetgg tggacettet gggeetggte egeetegagg eeceggggta egaggeggae 360 420 gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatcctc acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480 gggaccotgg teaccecaaa ggacgtecaq qagaaqtacq qqqtqccccc qgagcgctgg 540 600 gtqqacttcc gcgccctcac qqqqqaccqc tcqqacaaca tccccqqqqt qqcqqqata qqqqaqaaqa ccqccttcq actcctcqca qaqtqqqqqa qcqtqqaaaa cctcctqaaq 660 aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720 ctccacctct ccttagacct ggcccgcatc cgcaccgacc tccccctgga ggtggacttt 780 aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840 gagtteggaa geeteeteea egagttegge eteetgggag gggagaagee eegggaggag 900 geccetqqe eeeeqeeqa aqqqqeette qtqqqettee teettteeeq caaqqaqeec 960 atqtqqqqq aqcttctqqc cctqqqqqq qcctcqqqcq qccqcqtqca ccqqqcaqca 1020 gaccccttgg cggggctaaa ggacctcaag gaggtecggg gectectcge caaggaccte 1080

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Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val 50 55 60

Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Glu 65 70 75 80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln $85 \hspace{1.5cm} 90 \hspace{1.5cm} 95$

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu 100 105 110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys 115 120 125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg 130 140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp 145 155 160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro 165 170 170

Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp 180 185 190

Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu 195 200 205

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg 210 215 220 $$.

Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp 225 230235235

Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu 245 250 255

Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly 260 265 270

Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

Phe	Gly 290	Leu	Leu	Gly	Gly	Glu 295	Lys	Pro	Arg	Glu	Glu 300	Ala	Pro	Trp	Pro
Pro 305	Pro	Glu	Gly	Ala	Phe 310	Val	Gly	Phe	Leu	Leu 315	Ser	Arg	Lys	Glu	Pro 320
Met	Trp	Ala	Glu	Leu 325	Leu	Ala	Leu	Ala	Ala 330	Ala	Ser	Gly	Gly	Arg 335	Val
His	Arg	Ala	Ala 340	Asp	Pro	Leu ,	Ala	Gly 345	Leu	Ьys	Asp	Leu	Ьуs 350	Glu	Val
Arg	Gly	Leu 355	Leu	Ala	Lys	Asp	Leu 360	Ala	Val	Leu	Ala	Ser 365	Arg	Glu	Gly
Leu	Asp 370	Leu	Val	Pro	Gly	Asp 375	Asp	Pro	Met	Leu	Leu 380	Ala	Tyr	Leu	Leu
Asp 385	Pro	ser	Asn	Thr	Thr 390	Pro	Glu	Gly	Val	Ala 395	Arg	Arg	Tyr	Gly	Gly 400
Glu	Trp	Thr	Glu	Asp 405	Ala	Ala	His	Arg	Ala 410	Leu	Leu	Ser	Glu	Arg 415	Leu
His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
Leu	Tyr	His 435	Glu	Val	Glu	Lys	Pro 440	Leu	Ser	Arg	Val	Leu 445	Ala	His	Met
Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val	Leu	Phe	Asp 500	Glu	Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	Lys
Thr	Gly	Lys 515	Arg	Ser	Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala	His 530	Pro	Ile	Val	Glu	Lув 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr	Gly	Arg	Leu	His 565	Thr	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 635 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 695 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 730 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 760 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 775 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 790 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His 840 <210> 499 <211> 2514

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Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val

Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala 90

Leu	Ile	Lys	Glu 100	Met	Val	Asp		Leu 105	Gly	Leu	Glu	Arg	Leu 110	Glu	Val
Pro	Gly	Phe 115	Glu	Ala	Asp	Asp	Val 120	Leu	Ala	Thr	Leu	Ala 125	Lys	Lys	Ala
Glu	Lys 130	Glu	Gly	Tyr	Glu	Val 135	Arg	Ile	Leu	Thr	Ala 140	Asp	Arg	Asp	Leu
Tyr 145	Gln	Leu	Leu	Ser	Glu 150	Arg	Ile	Ser	Ile	Leu 155	His	Pro	Glu	Gly	Tyr 160
Leu	Ile	Thr	Pro	Glu 165	Trp	Leu	Trp	Glu	Lys 170	Tyr	Gly	Leu	Lys	Pro 175	Ser
Gln	Trp	Val	Asp 180	Tyr	Arg	Ala	Leu	Ala 185	Gly	Asp	Pro	Ser	Asp 190	Asn	Ile
Pro	Gly	Val 195	Lys	Gly	Ile	Gly	Glu 200	Lys	Thr	Ala	Ala	Lys 205	Leu	Ile	Arg
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Pro 225	Ala	Ser	Val	Arg	Glu 230	Lys	Ile	Leu	Ser	His 235	Met	Glu	Asp	Leu	Lys 240
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Ala	Lys	Asp 355	Leu	Ala	Val	Leu	Ala 360	Ser	Arg	Glu	Gly	Leu 365	Asp	Leu	Val
Pro	Gly 370	Asp	Asp	Pro	Met	Leu 375	Leu	Ala	Tyr	Leu	Leu 380	Asp	Pro	Ser	Asn
Thr 385	Thr	Pro	Glu	Gly	Val 390	Ala	Arg	Arg	Tyr	Gly 395	Gly	Glu	Trp	Thr	Glu 400

Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu 405 410 Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu 420 425 Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly 435 440 Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr 535 Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tvr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Glv 615 Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr 635 Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro 645 Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly 665 Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg 695

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Val	Lys	Ser	Val 740	Arg	Glu	Ala	Ala	Glu 745	Arg	Met	Ala	Phe	Asn 750	Met	Pro	
Val	Gln	Gly 755	Thr	Ala	Ala	Asp	Leu 760	Met	Lys	Leu	Ala	Met 765	Val	Lys	Leu	
Phe	Pro 770	Arg	Leu	Arg	Glu	Met 775	Gly	Ala	Arg	Met	Leu 780	Leu	Gln	Val	Ala	
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2340

2400

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Leu 225	Lys	Pro	Ala	Ile	Arg 230	Glu	Ьуѕ	Ile	Leu	Ala 235	His	Met	Asp	Asp	Leu 240
ГÀа	Leu	Ser	Trp	Asp 245	Leu	Ala	Lys	Val	Arg 250	Thr	Asp	Leu	Pro	Leu 255	Glu
Val	Asp	Phe	Ala 260	Lys	Arg	Arg	Glu	Pro 265	Asp	Arg	Glu	Arg	Leu 270	Arg	Ala
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Gly	Met	Ser 675	Ala	His	Arg	Leu	Ser 680	Gln	Glu	Leu	Ala	Ile 685	Pro	Tyr	Glu
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Arg	Val	Lys	Ser 740	Val	Arg	Glu	Ala	Ala 745	Glu	Arg	Met	Ala	Phe 750	Asn	Met
Pro	Val	Gln 755	Gly	Thr	Ala	Ala	Asp 760	Leu	Met	Lys	Leu	Ala 765	Met	Val	Lys
Leu	Phe 770	Pro	Arg	Leu	Arg	Glu 775	Met	Gly	Ala	Arg	Met 780	Leu	Leu	Gln	Val
Ala 785	Asn	Glu	Leu	Leu	Leu 790	Glu	Ala	Pro	Gln	Ala 795	Arg	Ala	Glu	Glu	Val 800

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Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val Ile 50 $60	
Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 $70~75~60$	
Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln $85 \hspace{0.5cm} 90 \hspace{0.5cm} 95$	
Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu 100 $$105$$	
Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys $$115$$ $$120$$	
Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys $130 \\ 135 \\ 140$	
Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 150 155	
Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg $165 \hspace{1.5cm} 170 \hspace{1.5cm} 175$	
Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp	

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170

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Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu 145 \$150\$

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	_		Leu 340		-			345		-			350	_	
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Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
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Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu

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Ile 65	Val	Val	Phe	Asp	Ala 70	Glu	Ala	Pro	Ser	Phe 75	Arg	His	Glu	Ala	Tyr 80		
Gly	Gly	Tyr	Lys	Ala 85	Gly	Arg	Ala	Pro	Thr 90	Pro	Glu	Asp	Phe	Pro 95	Arg		

567

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg $100 \hspace{1.5cm} 105 \hspace{1.5cm} 105 \hspace{1.5cm} 110 \hspace{1.5cm}$

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Arg 225	Leu	Lys	Pro	Ala	11e 230	'Arg	Glu	Lys	Ile	Leu 235	Ala	His	Met	Asp	Asp 240
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Ala	Phe	Leu 275	Glu	Arg	Leu	Glu	Phe 280	Gly	Ser	Leu	Leu	His 285	Glu	Phe	Gly
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569

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Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu 570 Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu 585 . Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala 630 Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln 650 Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile 660 Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp 680 Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala 695 700 Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val 855

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Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu 165 \$170\$

Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys 185 Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val 230 Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly 245 250 Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val 265 Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu Lys Leu Lys Ala Leu Lys Ser Thr Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp 410 Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu 470 475

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Ala	Gly	His 515	Pro	Phe	Asn	Leu	Asn 520	Ser	Arg	Asp	Gln	Leu 525	Glu	Arg	Val
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His	Pro	Ile	Val	Glu 565	Lys	Ile	Leu	Gln	His 570	Arg	Glu	Leu	Thr	Lуs 575	Leu
Lys	Asn	Thr	Tyr 580	Val	Asp	Pro	Leu	Pro 585	Ser	Leu	Val	His	Pro 590	Arg	Thr
Gly	Arg	Leu 595	His	Thr	Arg	Phe	Asn 600	Gln	Thr	Ala	Thr	Ala 605	Thr	Gly	Arg
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Ile	His	Thr 675	Gln	Thr	Ala	Ser	Trp 680	Met	Phe	Gly	Val	Pro 685	Pro	Glu	Ala
Val	Asp 690	Pro	Leu	Met	Arg	Arg 695	Ala	Ala	Ьув	Thr	Val 700	Asn	Phe	Gly	Val
Leu 705	Tyr	Gly	Met	Ser	Ala 710	His	Arg	Leu	Ser	Gln 715	Glu	Leu	Ala	Ile	Pro 720
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Lys	Val	Arg	Ala 740	Trp	Ile	Glu	Lys	Thr 745	Leu	Glu	Glu	Gly	Arg 750	Lys	Arg
Gly	Tyr	Val 755	Glu	Thr	Leu	Phe	Gly 760	Arg	Arg	Arg	Tyr	Val 765	Pro	Asp	Leu
Asn	Ala 770	Arg	Val	Lys	Ser	Val 775	Arg	Glu	Ala	Ala	Glu 780	Arg	Met	Ala	Phe

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Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met 785 790 800	
Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu $805 \\ 810 \\ 815$	
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Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu 835 840 845	
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Tyr Gln Phe Ile Ser Ile Ile Arg Gln Pro Asp Gly Thr Pro Leu Lys 35 40 45

Asp Ser Gln Gly Arg Ile Thr Ser His Leu Ser Gly Ile Leu Tyr Arg 50 55 60

Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp 65 70 75 80

Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys 85 90 95

Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly 100 \$105\$

Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu 115 120 125

Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro 130 135 140

Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala 145 \$150\$

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Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys 180 185 190

Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile

Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
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Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val

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Arg Ile Glu 290	Phe Arg		Pro 295	Asp	Phe	Glu	Lys	Ala 300	Ile	Glu	Phe	Leu
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Leu Glu Glu	Ala Pro 340	Trp !	Pro	Pro	Pro 345	Glu	Gly	Ala	Phe	Val 350	Gly	Phe
Val Leu Ser 355	Arg Pro	Glu l	Pro	Met 360	Trp	Ala	Glu	Leu	Lуs 365	Ala	Leu	Ala
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Leu Arg Asp 385	Leu Lys	Glu 1 390	Ala	Arg	Gly	Leu	Leu 395	Ala	ьув	Asp	Leu	Ser 400
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Gly Glu Glu 465	Arg Leu	Leu '	Trp	Leu	Tyr	Arg	Glu 475	Val	Glu	Arg	Pro	Leu 480
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Leu Glu Ala 515	Glu Val	Phe i	Arg	Leu 520	Ala	Gly	His	Pro	Phe 525	Asn	Leu	Asn
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Gln	Tyr	Arg	Glu 580	Leu	Thr	Ьув	Leu	Lуs 585	Ser	Thr	Tyr	Ile	Asp 590	Pro	Leu
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Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu

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Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 $$40\ \mbox{\fontfamily}$$

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val 50 60

Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr

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His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val 650 Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu 660 665

Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr

675 680 685	
Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys $690 \hspace{0.5in} 695 \hspace{0.5in} 700 \hspace{0.5in}$	
Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly 705 $$ 710 $$ 720 $$	
Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn $725 \hspace{1cm} 730 \hspace{1cm} 735$	
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His Glu Va		Pro Leu	Ser #	Arg Val	Leu Ala	His Me	t Glu	Ala
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	-		Ala 340	·				345			·		350		
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•			Thr	645				_	650		_			655	
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Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala

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Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Ser
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Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 700 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 710 715 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 Leu Asn Ala Arq Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lvs Glv His His His His His His <210> 385 <211> 33 <212> DNA <213> Artificial <220> <223> Synthetic <400> 385 ggggcettcg tgggctacgt cetetecege ece 33 <210> 386 <211> 33 <212> DNA <213> Artificial <220> <223> Synthetic <400> 386

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Ala	Lys 130	Lys	Ala	Glu	Lys	Glu 135	Gly	Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp 145	Arg	Asp	Leu	Tyr	Gln 150	Leu	Val	Ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
Pro	Glu	Gly	His	Leu 165	Ile	Thr	Pro	Glu	Trp 170	Leu	Trp	Glu	Lys	Tyr 175	Gly
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Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
Lys	Leu 210	Leu	Lys	Glu	Trp	Gly 215	Ser	Leu	Glu	Asn	Leu 220	Leu	Lys	Asn	Leu
Asp 225	Arg	Val	Lys	Pro	Glu 230	Asn	Val	Arg	Glu	Lys 235	Ile	ьув	Ala	His	Leu 240
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His	Arg	Asn	Leu 420	Leu	Lys	Arg	Leu	Glu 425	Gly	Glu	Glu	Lys	Leu 430	Leu	Trp
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Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	Lys
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Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
Pro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Ala	Leu 610	Val	Ala	Leu	Asp		Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	Ser	Gly	qaA	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 695 700 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His 840 <210> 389 <211> 42 <212> DNA <213> Artificial <220> <223> Synthetic <400> 389 gaaaacctcc tcaagcacct ggaccaggta aagccagaaa ac 42 <210> 390 <211> 42 <212> DNA <213> Artificial

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Val Phe Val Val	Phe Asp Ala Lys	Ala Pro Ser Phe	Arg His Glu Ala
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Tyr Glu Ala Tyr	Lys Ala Gly Arg	Ala Pro Thr Pro	Glu Asp Phe Pro
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Arg Gln Leu Ala	Leu Ile Lys Glu	Leu Val Asp Leu	Leu Gly Phe Thr
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145	150	155	160
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Ser Asp Asn Leu	Pro Gly Val Lys	Gly Ile Gly Glu	Lys Thr Ala Leu
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Lys Leu Leu Lys	Glu Trp Gly Ser	Leu Glu Asn Leu	Leu Lys His Leu
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Pro Leu Glu Val	Asp Leu Ala Gln	Gly Arg Glu Pro	Asp Arg Glu Gly
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Leu Arg Ala Phe	Leu Glu Arg Leu	Glu Phe Gly Ser	Leu Leu His Glu
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Phe Gly Leu Leu	Glu Ala Pro Ala	Pro Leu Glu Glu	Ala Pro Trp Pro
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Pro Pro Glu Gly	Ala Phe Val Gly	Phe Val Leu Ser	Arg Pro Glu Pro

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7	Arg	Leu	Ser	Ser 580	Ser	Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr
E	ro	Leu	Gly 595	Gln	Arg	Ile	Arg	Arg 600	Ala	Phe	Val	Ala	Glu 605	Ala	Gly	Trp
Į	Ala	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala

610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 650

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810

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Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 100 105 110

Arg Leu Clu Val Pro Cly Tyr Clu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 145 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu 225 230 235

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu 245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly 260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu 275 280 285

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Pro Pro 305	Glu Gly	Ala Phe 310		Gly	Phe	Val	Lец 315	Ser	Arg	Pro	Glu	Pro 320
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His Arg	Ala Ala 340	Asp Pro	Leu	Ala	Gly 345	Leu	Lys	Asp	Leu	Lys 350	Glu	Val
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Leu Ala	Gly His	Pro Phe 485	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
Val Leu	Phe Asp 500	Glu Leu	Arg	Leu	Pro 505	Ala	Leu	Lys	Lys	Thr 510	Lys	ГЛЗ
Thr Gly	Lys Arg 515	Ser Thr	Ser	Ala 520	Ala	Val	Leu	Glu	Ala 525	Leu	Arg	Glu
Ala His 530	Pro Ile	Val Glu	Lys 535	Ile	Leu	Gln	His	Arg 540	Glu	Leu	Thr	ГÀЗ
Leu Lys 545	Asn Thr	Tyr Val		Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
Thr Gly	Arg Leu	His Thi	Arg	Phe	Asn	Gln 570	Thr	Ala	Thr	Ala	Thr 575	Gly
Arg Leu	Ser Ser 580	Ser Asp	Pro	Asn	Leu 585	Gln	Asn	Ile	Pro	Val 590	Arg	Thr

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp 600 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 680 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 825 Ser Ala Lys Gly His His His His His His 840 <210> 397 <211> 33 <212> DNA <213> Artificial <220> <223> Synthetic <400> 397

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	Ala	•		485					490	•	-			495	
	Leu		500			_		505			-	-	510	-	-
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Leu 545	Lys	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560
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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 $\,$ 55 $\,$ 60 $\,$

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 90 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 135 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Tlu Lys Tyr Gly Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 375

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Arg Gl	y Tyr	Val	Glu 725	Thr	Leu	Phe	Gly	Arg 730	Arg	Arg	Tyr	Val	Pro 735	Asp		
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Phe As	n Met 755	Pro	Val	Gln	Gly	Thr 760	Ala	Ala	Asp	Leu	Met 765	Lys	Leu	Ala		
Met Va 77		Leu	Phe	Pro	Arg 775	Leu	Arg	Glu	Met	Gly 780	Ala	Arg	Met	Leu		
Leu Gl 785	n Val	Ala	Asn	Glu 790	Leu	Leu	Leu	Glu	Ala 795	Pro	Gln	Ala	Arg	Ala 800		
Glu Gl	u Val	Ala	Ala 805	Leu	Ala	Lys	Glu	Ala 810	Met	Glu	Lys	Ala	Tyr 815	Pro		
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Arg Leu Glu Val		Glu Ala Asp Asp Va 120	l Leu Ala Thr Leu 125
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Ser Asp Asn Leu		Lys Gly Ile Gly G	u Lys Thr Ala Leu
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Lys Leu Leu Lys	Glu Trp Gly 8	Ser Leu Glu Asn Le	eu Leu Lys Asn Leu
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Phe Gly Leu Leu	Glu Ala Pro A	Ala Pro Leu Glu G	u Ala Pro Trp Pro
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His 625	Leu	Ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
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FIIC ASII	755	FIO	vaı	GIII	GLY	760	мта	ALG	мер	neu	765	ыуа	bcu	ALU		
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Glu Glu	Va1	Ala	Ala 805	Leu	Ala	ьув	Glu	Ala 810	Met	Glu	Lys	Ala	Tyr 815	Pro		
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gggtacaa	agg o	cagto	ttc	gt gg	gtett	tgac	geo	caago	geec	ccto	ctto	eg d	caco	gaggco	2 4	į
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Ser	Asp	Asn 195	Leu	Pro	Gly	Val	Lys 200	Gly	Ile	Gly	Glu	Lys 205	Thr	Ala	Leu
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Glu	Ala 450	Thr	Gly	Val	Arg	Arg 455	Asp	Val	Ala	Tyr	Leu 460	Gln	Ala	Leu	Sei
Leu 465	Glu	Leu	Ala	Glu	Glu 470	Ile	Arg	Arg	Leu	Glu 475	Glu	Glu	Val	Phe	Arg 480
Leu	Ala	Gly	His	Pro 485	Phe	Asn	Leu	Asn	Ser 490	Arg	Asp	Gln	Leu	Glu 495	Arg
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Ala	His 530	Pro	Ile	Val	Glu	Lys 535	Ile	Leu	Gln	Hìs	Arg 540	Glu	Leu	Thr	Lys
Leu 545	ГÀз	Asn	Thr	Tyr	Val 550	Asp	Pro	Leu	Pro	Ser 555	Leu	Val	His	Pro	Arg 560

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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala

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Tyr Glu Ala	Tyr Lys 85	Ala Gl	y Arg	Ala	Pro 90	Thr	Pro	Glu	Asp	Phe 95	Pro
Arg Gln Leu	Ala Leu 100	Ile Ly	s Glu	Leu 105	Val	Asp	Leu	Leu	Gly 110	Phe	Thr
Arg Leu Glu 115	Val Pro	Gly Ty	r Glu 120	Ala	Asp	Asp	Val	Leu 125	Ala	Thr	Leu
Ala Lys Lys 130	Ala Glu	Lys Gl 13		Tyr	Glu	Val	Arg 140	Ile	Leu	Thr	Ala
Asp Arg Asp 145	Leu Tyr	Gln Le 150	u Val	ser	Asp	Arg 155	Val	Ala	Val	Leu	His 160
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Glu Asp Leu	Arg Leu 245	Ser Le	u Glu	Leu	Ser 250	Arg	Val	Arg	Thr	Asp 255	Leu
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Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu

115 120 125 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 135 130 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 150 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 170 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 360 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu 370 Asp Pro Ser Asm Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 390 395 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu 405 410

His Arg Asn Leu Leu Lys Arg Leu Glu Glu Glu Lys Leu Leu Trp

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Ala His Pro I 530		Lys Ile Le 535	eu Gln His Arg 0 540	Glu Leu Thr Lys
Leu Lys Asn T 545	Thr Tyr Val 5	Asp Pro Le	eu Pro Ser Leu \ 555	Val His Pro Arg 560
Thr Gly Arg L	eu His Thr 2 565	Arg Phe As	on Gln Thr Ala 7 570	Thr Ala Thr Gly 575
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Ala Leu Val A 610		Tyr Ser Gl 615	in Ile Glu Leu A 620	arg Val Leu Ala
His Leu Ser G 625	Sly Asp Glu i 630	Asn Leu Il	e Arg Val Phe 6	ln Glu Gly Lys 640
Asp Ile His T	Thr Gln Thr i 645	Ala Ser Tr	p Met Phe Gly V 650	Val Pro Pro Glu 655
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Val Leu Tyr G 675	Gly Met Ser	Ala His Ar 680	g Leu Ser Gln G	Blu Leu Ala Ile 585
Pro Tyr Glu G 690		Ala Phe Il 695	le Glu Arg Tyr I 700	Phe Gln Ser Phe
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Arg Gly Tyr V	/al Glu Thr !	Leu Phe Gl	ly Arg Arg Arg 1	Tyr Val Pro Asp

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Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 60

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr 105 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His 150 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 100 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 200 205 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro 305 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly 360 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly 390 395

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Ala	Leu 610	Val	Ala	Leu	Asp	Tyr 615	Ser	Gln	Ile	Glu	Leu 620	Arg	Val	Leu	Ala
His 625	Leu	ser	Gly	Asp	Glu 630	Asn	Leu	Ile	Arg	Val 635	Phe	Gln	Glu	Gly	Lys 640
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Phe	Asn	Met 755	Pro	Val	Gln	Gly	Thr 760		Ala	Asp	Leu	Met 765	Lys	Leu	Ala	
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Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly 65 70 70 75

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln

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Arg Se	r Thr 515	Ser	Ala	Ala	Val	Leu 520	Glu	Ala	Leu	Arg	Glu 525	Ala	His	Pro
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Phe	Leu	Glu 275	Arg	Leu	Glu	Phe	Gly 280	Ser	Leu	Leu	His	Glu 285	Phe	Gly	Leu
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Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 60

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His

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Gln	Glu	Val 435	Glu	Arg	Pro	Leu	Ser 440	Arg	Val	Leu	Ala	His 445	Met	Glu	Ala
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Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 55 60

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr $100 \,\,\,$

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 \$135\$

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Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro 180 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu 195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu 210 215 220

Asp Arg Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu 225 230 235 240

Glu Asp Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu 245 250 255

Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu 260 265 270

Glu Gly Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu 275 280 285

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Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu

265

816

Glu	Gly	Leu 275	Arg	Ala	Phe	Leu	Glu 280	Glu	Leu	Glu	Phe	Gly 285	ser	Leu	Leu
His	Glu 290	Phe	Gly	Leu	Leu	Gly 295	Gly	Glu	Lys	Pro	Arg 300	Glu	Glu	Ala	Pro
Trp 305	Pro	Pro	Pro	Glu	Gly 310	Ala	Phe	Val	Gly	Phe 315	Leu	Leu	Ser	Arg	Lys 320
Glu	Pro	Met	Trp	Ala 325	Glu	Leu	Leu	Ala	Leu 330	Ala	Ala	Ala	Ser	Gly 335	Gly
Arg	Val	His	Arg 340	Ala	Ala	qaA	Pro	Leu 345	Ala	Gly	Leu	Lys	Asp 350	Leu	Lys
Glu	Val	Arg 355	Gly	Leu	Leu	Ala	Lys 360	Asp	Leu	Ala	Val	Leu 365	Ala	Ser	Arg
	Gly 370		-			375	•	_	_		380				-
385	Leu	_			390					395					400
•	Gly		-	405		·			410	_				415	
	Leu		420					425					430		
	Trp	435	-				440	-				445			
	Met 450					455					460				
465	Ser				470				_	475					480
	Arg			485					490			_	-	495	
	Arg		500		_			505					510		
	Lys	515		-			520					525			
_	Glu 530					535		-			540				
545	Lys				550					555					560
Pro	Arg	rnr	чтĀ	Arg 565	ьeu	nis	rnr	arg	570	Asn	GIN	rnr	WIG	575	ATA

Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val 585 Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala 600 Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu 625 630 Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro 650 Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn 665 Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp 825

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Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala 50 $\,$

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr

Arg Leu Glu Val Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His 145 150 155 160

Pro Glu Gly Tyr Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly 165 170 175

Leu Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro 180 185 190

Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala 195 200 205

Lys Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu 210 215 220

Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met 225 230 235 240

Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu